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“A Newsletter for the
Truly Outbound!”

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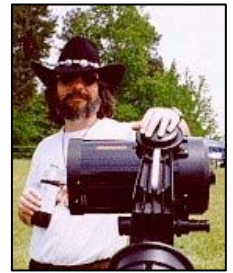
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Uncle Rod Mollise's

Skywatch



NEXREMOTIN' IN THE COUNTRY...

Uncle Rod

It's amazing to me how many Celestron owners ignore or don't even *know* about **Nexremote**, one of the most innovative telescope control software tools (puttin' it mildly) ever to come down the pike. But what, you may ask, is "Nexremote"?

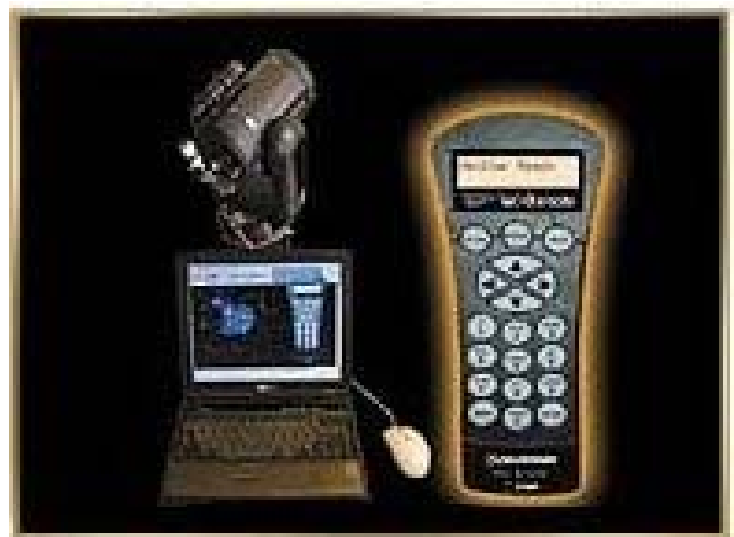
It was a dark and stormy night...

Well, maybe not dark and stormy, but it *was* a cloudy 2003 evenin', anyway. Your Old Uncle Rod was browsing the email. Buried amongst all the Yahoogroup traffic was a personal missive from a dude named Ray St. Denis. Mr. Ray asked if I'd be interested in helping beta test a new software package for Celestron Nexstar scopes he and his buddy, Andre Paquette, were working on.

"Well, I dunno," sez Uncle Rod.

I was, I will admit, simply not overly excited about lookin' at yet *another* planetarium program that would—SHAZAM!--allow you to click on objects and send your scope on go-tos. Ho-hum.

Andre responded by saying this was a very special and very different program. What this app, which he and Andre (who called themselves the "[Astro-geeks](#)" (!)) were calling **hcAnywhere**, did was duplicate the Nexstar computer hand-paddle on a PC screen. But that was not the big news. After all, ASCOM can throw up a simple direction button "hand control." What was big news was the fact that, as Ray explained, **hcAnywhere** replaced the hand controller. That is, it would allow you to leave the handpaddle at home!



A virtual hand controller was something the Celestron and Meade troops had dreamed about for a long time, so my interest was, understandably, *piqued*. Hell, a virtual hc was the Holy Grail of us go-to-mad SCT troops. And just to sweeten the deal, Ray said he'd send me a "programming cable" along with the software so I wouldn't have to scrounge one somewhere. Why a programming cable? hcAnywhere, he said, used the Nexstar's "PC" connection rather than the normal RS-232 socket in the base of the handpaddle to connect to the scope. Before hcAnywhere, the PC port's/programming cable's only use had been for updating scope motor control firmware.

So I was convinced to join the effort, and in short order I had hcAnywhere up and runnin'. Even today I'm amazed at what Ray and Andre accomplished. Once I got the package, I found that "just" duplicating the HC was only a small part of the story. Thanks to hcAnywhere, I now had something I'd wanted for a long time: **wireless scope control**.

hcAnywhere, you see, was compatible with Logitech's wireless "Wingman" gamepads. Not only could you use the joystick to slew the scope, the gamepad's many buttons had been assigned to perform various hc functions. Slewng the scope was just a small part of it. It was possible to use the Wingman to access menus and perform alignments without touching the computer. This made the whole hcAnywhere idea seem more practical to me. Initially, I'd wondered about the difficulty of aligning the scope with a PC. Unless the laptop were near the eyepiece, you'd have to center star and then run over to the laptop and try to "accept" the star as quickly as possible before it drifted away (some Celestron scopes in some modes don't begin tracking until the alignment is done).



But the gamepad option was about more than just making go-to alignment easier; the wireless Wingman made the difference between hcAnywhere being an innovative curiosity and a genuinely useful setup. I don't mind tellin' y'all that as soon as Andre and Ray let me know me about the gamepad thing I ran over to Ebay and snagged a Wingman (for less than 20 American dollars).

When the software and the gamepad arrived, and many cloudy nights had—of course--passed, I got the Nexstar 11 out under the stars with hcAnywhere. Funny thing? For such a seemingly complex piece of code, it all worked perfectly and without complaint. No crashes. No errors. All night long. I didn't have to give up my planetarium programs either. Seems as hcAnywhere had a "virtual (serial) port" that would allow other programs to share the PC port connection. Turn that virtual port option on, startup Cartes du Ciel (or whatever), tell CdC the port number hcAnywhere had assigned, and the planetarium worked just like it always had. Click on a DSO, scope went there. Yeehaw.

Only major annoyance? While the Wingman made it purty easy to do alignments, I'd still have to wander back to the PC and read the display to do many operations. I mentioned this to Ray and Andre and they said, "Well, Rod, why don't you enable speech?" They should have appended "you dummy" to that, since the program's speech-synthesis function was well documented in the program's help file (which, as usual, Your Silly Old Uncle refused to read). Turned out hcAnywhere was able to use the Microsoft "Mike/Mary" speech synthesis engine. It's strangely sexy to hear my "scope" intone, "Nexstar Ready!" or "Object Acquired!" in a female *U.S.S. Enterprise*-computer-like voice. Not just sexy, though, USEFUL. With the volume at a reasonable level, I can now do many operations with the help of audio cues without returning to the laptop.

But other than being SUPERCOOL what did hcAnywhere really do for me?

- It let me leave the non-virtual handpaddle in the case. I don't know about y'all, but I can never find a good place to put the derved thing. I'm dropping/losing it all night long.
- It gave me wireless scope control, eliminating the ring-around-the-rosy dance that ends up with the tripod hog-tied with the handpaddle cable.
- I finally had one and only ONE cable running from PC to scope. Another Ray/Andre program, [Nexhub](#), can implement MORE virtual ports, and will send *everything* to the PC via one Programming Cable (HC, planetarium, and a serial guiding program, for example).
- I could *choose* which set of firmware my scope used. I can, for example, set my NS11's virtual handpaddle to duplicate the old "North and Level" GPS hc or tell it it is a new SkyAlign model.
- I could develop "guided tours" with ease. The "Nextour" sub-program allows a user to compile lists of objects that can then be easily accessed via the virtual HC's tour function.

But what's this hcAnywhere thing got to do with [Nexremote](#)? As y'all may know, Celestron took immediate interest in the 'Geeks, and soon made a deal with the boys to bring hcAnywhere into the official Celestron corral under the name "Nexremote."

Is there any criticism to be leveled against Nexremote? Only one, and it's not the fault of Ray and Andre. Celestron's scopes still use your computer's consarned RS-232 port. Yes, you'll be runnin' to the PC port with Nexremote, but the format is still dad-blamed, cotton-pickin' RS-232 serial data. Why is that so bad? Because most modern laptop computers don't come with serial ports. That meant that I was Nexremoteless for quite some time.

"But Uncle Rod, But Uncle Rod," you say, "why

didn't you just get one of them little USB to serial converter cables?" Well, I *did* Skeeexix, *and she did not work*. No matter which brand I tried, my new laptop (a pretty high-powered Toshiba) would not reliably connect to Nexremote using a USB-serial adapter. If I mashed the button 10 times, I might be able to finally connect. When I did connect, the scope might work fine, or I might get lots of "no response" errors.

I hated this state of affairs, because I love Nexremote. Then, finally, one day, a light went on: "Get a PCMCIA serial card you nincompoop." I found one (on Ebay, natch) for 20 bucks (that's my magic price point), installed it, held my breath and...*all was well again*; I was Nexremotin' in style once more after months and months of withdrawal. Moral of the story? You can try one of them dadgummed converter cables with your computer. Might work. If it doesn't, a PCMCIA serial card will fix things. I just wish the telescope companies would for once and for all abandon the RS-232 mess (Meade has implemented USB for its RCX-400).

So why don't you see more folks runnin' Nexremote on star party fields? I dunno. It ain't that expensive. Less than a hundred bucks for a kit with a programming cable, a little more than 50 for just the software. In fact, the program ships with most new Celestron scopes, so most folks won't pay a dime. Why don't they use it, then? Beats me. I reckon they don't know what it is or at least don't know how *wonderful* it is.

Ray and Andre's baby is all grown up now, and I'm sure they are proud. *They oughta be*. I know it's done more to improve *my* observing experience than anything else since go-to came 'round.

THE GOOD OLD DAYS

Uncle Rod

Ah, *the good old days* of amateur astronomy! How we *pine* for them. How those Baby Boom amateurs like Your Old Uncle Rod declaim

about them to any of you younguns who will listen. Growing up with amateur astronomy in the 60s *was* exciting. It was all new and wonderful for us starry eyed teenagers. The *times we had* back in those days of Mercury, Gemini, and Apollo! We were reinventing the astronomy club, inventing the star party, and just generally having a ball like I've never had since. Would I like to go back to the amateur astronomy of the 1960s, then? Not on your life, bubba!

Most of the folks who listen to us geezers go on and on about the good old days of amateur astronomy have naturally developed a rather romantic notion of The Way We Were back in the 1960s. A time—we tell 'em—of, for example, Dedicated Amateurs exploring the new art of astrophotography. Tirelessly guiding for three or four hours to record beautiful cooled camera masterpieces whose richness invokes the specter of Ansel Adams.

Nice “memories,” huh? As is usually the case, reality was *somewhat* different from our golden recollections of those times gone by.

For starters, some people *did* have the skill to build and use dry-ice-cooled-emulsion cameras, but not me or my friends. Wet behind the ears teenage novices like us wouldn't have *dared* to take on a project like that—though we *shore* dreamed about it. Back in the 60s, most of us who dared waded into the deep astro-imaging waters were struggling along with ambient temperature Kodak *Tri-X*, a 400 speed black and white print film that the word “grain” was invented for.

We weren't doing three or four hour exposures either. Or one hour exposures. Or half-hour exposures. Given the “quality” of our scope drives, the vagaries of cobbled together drive correctors, and the difficulty of balancing long-tube Newtonians, we were lucky to get 15 minutes worth of exposure. Due to the inevitable flexure between guide scope (usually a 60mm trash scope “borrowed” from the kid next door) and main scope, stars would usually be badly trailed even after a measly 15 minutes, even if you *were* able to keep that consarned star centered in the crosshairs of the guiding eyepiece—assuming you could afford a crosshair reticle eyepiece.

What *would* Tri-X record after a 15 minute exposure on an f/8 scope? Not much. The resulting prints *might* show an elongated fuzzy-blob you could tell your friends was M13. Oh, and you wouldn't be able to show your buddies *anything* until you spend a night in the darkroom, most likely the kitchen after Mom, Pop, brothers, and sisters had gone to bed. Rod's ol' Mum really loved the way he stank up her kitchen with Dektol and Hypo. For all these reasons, most of us mostly did visual observing even if we *dreamed* of astrophotography.



Before you could observe anything, of course, you had to have a scope. Back in the 1960s, you could buy scopes, sure, but once you got beyond the three and four inchers, they became horrendously expensive (not just for us squirts, but for many adults), so your alternative, if a Skyscope or Palomar Junior was not “enough,” was to *build*. I mean from the ground up, including grinding, polishing and figuring a mirror.

Romantic reminiscing among ATMs aside, the truth is, the average home-made mirror of yesterday was of *much* poorer quality than the average machine made Chinese mirror of today. Most of us had to rely on a friend who'd made a primary before to transmit his knowledge (back then amateurs were apparently exclusively male...I never ran into a female amateur until the 70s, anyway) if he had the time and inclination to do so. If not, you had to work through it with only good, ol' Sam Brown and his *All About Telescopes* (I still love his wonderful drawings) to guide you.

If you were gonna make a mirror, though, you first had to buy blanks for the primary and the tool and the abrasives you'd need. That wasn't always easy, believe it or not. The purchase of a mirror kit for ten or fifteen bucks sounds inconsequential these days, but when you made one or two bucks for mowin' a *huge* lawn, and your old man made maybe a hundred bucks a week (if y'all were substantially above the *hoi polloi*) that was hard for many and impossible for some. How about a nice *porthole glass* primary ground with beach sand and who knows what else and polished with a roofing tar lap? Suffice to say, even the least expensive Synta or Guan Sheng 8-inch mirror is worlds better than the best turned-down-edge *horrors* me and my mates "crafted."

If you had a little more money than me and my teenage hillbilly friends and were prepared to *buy* a scope, you had to be prepared to reach *way* down in your pockets. Till it hurt. Let's browse through the magazine section of Chaos Manor South's massive equipment vault, in the alcove labeled "*Sky and Telescope, 1960 -*

1969."

Hmmm...let's see...LOOK OUT! That stack falls on you, and we'll be diggin' you out for weeks!

OK...how about **November 1967**, the winter after the Summer of Love? The cover has a picture of a geeky looking young amateur (even in 1967, most amateur astronomers in *S&T* and elsewhere still looked a wee bit less than hip—your's truly excepted, *of course*) who'd built his own beautiful and complex hydrogen alpha Solar scope—I admired it muchly and reread the accompanying article many times. What's inside, though, scope-ad-wise (today's equivalent dollars in parentheses)?

Questar 3.5. \$795.00. (\$4836.00). Might as well have been a million bucks as far as I was concerned.

Celestron Pacific C16. 16-inches of pure joy for \$11,500 (\$70,000.00)! Might as well have been *two* million.

Unitron? You could get their beautiful 4-inch Photo-equatorial achromatic refractor for a *mere* \$950.00 (\$5779.00)--it even had a MOTOR DRIVE and a camera mount. Just don't ask me what you were gonna take pictures of with this super-long focal length 4-inch.

Cave reflectors. The 8-inch Deluxe *might* be IT if you could knock over a liquor store with the \$625.00 (\$3802.00) in the till you'd need.

Couldn't afford the fancy-schmantsy? As above, you could stick to 4-inch and smaller Newtonians; perhaps the cute 4-inch Dynascope Newt. This one came on a little GEM mount with an AC clock drive. Sorry, pard, but you'd still have to mow a *quite* a few lawns to raise the \$109.95 (\$668.00) you'd need to send Criterion's way. Maybe ask Daddy if he wouldn't mind turnin' over a paycheck or two in the service of your quest for astronomical glory? Hope you could run faster than the Old Man!

Assuming you obtained something that could at least roughly be described as a "telescope," yeah, your focus was gonna be on visual observing. That wasn't easy either. It wasn't just the limitations imposed by our small aperture telescopes (back where I came from,



an 8-inch was a *big* scope), it was the fact that we didn't know what to observe or how to observe it.

Going beyond the Messier was scary for a lot of folks. Way back when, for example, a lot of people considered Cygnus' Veil Nebula an "impossible object." Even if you thought you'd try for The Veil, you'd have a lot of trouble *finding* it. If you were like me, your only "finding tool" was *Norton's Star Atlas*. *Norton's* is a lovely book as James Michener said in his novel *Space*, but it wasn't so lovely when you were actually trying to *use* it at the telescope. It did plot a lot of non-Messier objects (the NGCs were not labeled as NGCs, however, but with archaic Herschel Numbers), but since the atlas only went down to mag 6, there weren't enough guide stars to make finding even bright Messiers easy.

If you did somehow stumble across The Veil, you wouldn't see much of it because of the eyepieces you had to look at it with. Sure, some amateurs back then had collections of Erfles and Orthoscopics that would be fairly respectable performers even today. Maybe if your name was "Johnny Carson" or "Hugh Downs." Not me and my friends. What we had were **Kellners** and **Ramsdens** (don't ask) made from uncoated WWII surplus lenses. Which made NGC 6960 look like what? Like not much at all, not in a 35 degree field of view uncoated eyepiece. If you saw anything at *all*, it would just reinforce your idea that this showpiece of today was *impossible*.

Yep, if you found a "challenge" object, you likely wouldn't find it very interesting, and not just because of the way it looked in your eyepiece. *You wouldn't know enough about it to look for interesting but difficult details*. For the Messier, we did have the lovely Mallas Kreimer "Messier Album" series in *Sky and Scope* to refer to--Evered Kreimer was one dude who *could* take astrophotos with Tri-X. We also had, thank God, Scotty Houston and his "Deep Sky Wonders" column, but even Scotty couldn't cover everything, and unless you had a library with back numbers of *Sky and Telescope* in the stacks (the **Possum Swamp Public Library** had never even *heard*

of the magazine) or a buddy with plenty of old issues, you were out of luck.

Well, at least we had pitch-black un-light-polluted skies back in the day, right? Uh... In my area, the skies were *somewhat* better than they are now, but not worlds better. By the time the 1960s began to wind down, developers were putting up shopping malls and used car lots and their thousands of cobra-head lights with abandon anywhere in the rapidly bloating suburbs they could find space. Travel to a dark sky site? The thing was, unless you knew somebody with a bit of land out in the sticks you were stuck. There was Stellafane, but that was 'bout it. No Texas Star Party, Riverside, Georgia Sky View, Cherry Springs, WSP, PSSG, MSSG, ISP, etc., etc., etc., etc.

Just as "objects are closer in the mirror than they appear," the bygone days of our amateur astronomy youth have assumed a GOLDEN glow that tends to soften and obscure the way things *really* were. Bad ol' reality was a little different.

Pawnshop Insanity

Martin R. Howell

Insanity is sometimes defined as doing the same thing over and over again and expecting different results. I *must* be insane...or to put it in slightly less condemning terms, I suffer from *pawnshop* insanity. Here's how this malady manifests itself in me: for the past 25 years or so, I've gone on a roughly bi-yearly binge of checking area pawnshops for astro goodies. Finding a Questar for around \$100 would be wonderful. Perhaps some person inherited it with no idea of its monetary worth and taking it to the local pawnshop, received a \$50.00 offer. "Hmm, fifty bucks ready cash or something that is going to sit in the attic and never get used?" Bingo. A deal is struck and it's a win/win/win scenario. The inheritor got

the cash he would rather have, I got a Questar, and the shop owner realized a 100% return. Stranger things have happened!

Appearing frequently in the news are stories of people finding some rare something or another at a flea market or a rural antique store and purchasing it for 1/100th of what it's really worth. Why shouldn't the same thing occasionally happen to an amateur astronomer?

Appearing frequently in the news are stories of people finding some rare something or another at a flea market or a rural antique store and purchasing it for 1/100th of what it's really worth. Why shouldn't the same thing occasionally happen to an amateur astronomer?

I also find my eyes scanning shelves in that corner just behind the glass display counters which hold hundreds of video games that people got tired of playing. Are you looking at that corner with me? What do you see? I see three telescopes. Two of them are 114mm reflectors (one's a Bushnell and the other's a Galileo). The third scope is a 60mm refractor on a wobbly, wooden tripod. At least one of these scopes has the finder scope in backwards—the unit is pointed towards the telescope's eyepiece. Yikes!

Here's what will never occur but what I keep hoping for, anyway—the anticipated result that puts me on the lunatic fringe. While looking disappointedly at the same three scopes seen in indistinguishable pawnshops for too many years, a manager approaches me and asks, "Don't see what you're looking for?"

"Nah," I reply. "I was hoping for something a little bigger."

"Well, we do have a 30" Obsession in the back room which is just too big to put out on the display floor. It's only \$800. Would you like to see it?"

Finally, there is that shelf on the wall just behind the display counter which holds the cash register...the shelf loaded with telephoto lenses (some in nice leather cases, some not) plus several binoculars. Always 7 x 35's and 7 x 50's. I just *know* one day that shelf will groan under a fine Fujinon 40 x 150 binocular

which I will *immediately* purchase for a mere fraction of its actual worth. And I will use these titanic binocs to discover a comet that will rival the turn-of-the-century Halley's. What would I name it? Let me think. "Comet Martin?" Perhaps. "Comet Howell?" Maybe. "Comet *Skywatch*?" Well, why not?

I'll be making the rounds again. Soon. Some things never change.

Beacons in the Night : Internet Equipment Reviews

Pat Rochford and Uncle Rod

One of the most frightening aspects of entering this hobby of ours is the acquisition of a telescope. It is a step often taken with a lot of uncertainty. *"Is this the best choice in design for my area of interest? Is the quality of the scope in line with the amount of money I'm spending? Will I be able to transport it to a dark site as well as into my backyard?"*

I once mentioned in this newsletter what a wonderful time it is to be an amateur astronomer. The proliferation of telescopes and accessories currently available (in all price ranges) is at an all time high. The problem is not finding *a* telescope to suit your interest and pocketbook, but rather *just which one* - there really are that many. So many in fact, that the problem of choosing is further compounded by these numbers.

In years past, about the only way to get first-hand information about a particular telescope, was to use one that belonged to someone else. If you were lucky enough, you belonged to a large astronomy club where there was a chance that someone in the club might own the model you were interested in. Or perhaps you traveled once or twice a year to a major star party and found the scope there. But more than likely, you experienced neither of these situations. The best you could do was to trust the slick ad in *Sky and Telescope* or *Astronomy*. Sometimes you got just what you

wanted; sometimes the scope turned out not to be exactly what you had in mind.

A few years ago, help came along in the form of a book called *Starware*, by Phil Harrington (now in its 4th edition). This book was revolutionary in that it gave mostly honest and unbiased information on just about all commercially available telescopes. Their strong points, weak points, supplied accessories--you name it. Unfortunately, the information quickly became dated as new models replaced old ones. Phil came out with a second edition, and recently, the 4th, but, inevitably, as with the first book, the information won't stay current for long.

Enter the Internet, the perfect vehicle for fast and current information. The first telescope review site I came across--some years ago--was that of **Todd Gross**, a television weatherman in Boston at the time. Todd seemed to be living my dream of buying and testing every telescope imaginable. Today, he is not as active as he once was, but his telescope review website, which opened those initial floodgates, <http://www.weatherman.com>, is still there and still has a lot of his excellent mini-reviews.

Ed Ting also had and has a review site (<http://scopereviews.com/>) that currently covers 119 different telescopes and dozens of eyepieces. Like Todd, Ed, who's moved onto professional astro-writing, isn't updating the website as often as he used to, but his page is still there, and is still a valuable resource.

A third site, **Cloudy Nights** <http://www.cloudynights.com>, contains a huge reservoir of telescope reviews, written both by man-on-the-street contributors and by Cloudy Nights' professional staff, including excellent writer Tom Trusock. This site usually grows noticeably from week to week.

While Astromart (<http://www.astromart.com>) is not usually thought of as a review site, it includes many excellent reviews as well as all those



fascinating telescope ads. In addition, the main website for Anacortes Telescope and Wild Bird (Astromart's owner) has a review column by our own Rod Mollise, "Uncle Rod's Corner" (<http://www.buytelescope.com>).

Add to these sites a huge number of "Yahogroup" user groups that act as forums for specific scopes. Rod Mollise, for example, owns or helps run groups for SCT's, Meade scopes, Nexstar GPS scopes, Nexstar CGE scopes and more. The dialog at these Yahogroups covers everything from discovering bugs in new models to coaxing the most out of older scopes. The ability to ask a question specific to your needs and get an almost immediate answer is something that would have been impossible just a decade ago. Keep in mind that information found on these Internet sites can be somewhat subjective at times. Opinions on telescopes are as varied as those on automobiles, but the amateur community as a whole will not steer you wrong. We all pretty much depend and *have*

to depend on each other for reliable information.

So, if you're new to the hobby or just want to get information on the latest models from California to China, get online now and find out if the ad you're drooling over is the real deal and if it's right for you.

Planting the Seeds

Pat Rochford

It *seems* like just a few years ago that I spent an afternoon at my son's school demonstrating the vastness of the Solar System. His third grade class was studying the planets in science that particular week, so I thought I'd try to spice things up a little with a hands-on project.

I was a tad bit apprehensive about doing this, since science is not usually a "cool" thing for kids to talk about. It's become difficult to compete with Nintendo and Xbox.

Luckily, I found something on the Internet by Guy Ottwell called "The Thousand Yard Solar System." This project involves finding objects to represent the Sun and nine planets on a scale of 1-inch to 100,000 miles using a very large area to step it off. I was just hoping to be able to hold the kids' attention long enough to finish.

I showed up at the school with an eight-inch diameter kick ball for the Sun, a large walnut to represent Jupiter, a pecan for Saturn, a kernel of popcorn as the Earth, and so on. I was somewhat hesitant about having a question and answer period before going outside (didn't want to bore them from the get-go). But I thought I should at least afford the kids a chance to ask something about the planets after my brief explanation of what we were about to do. What followed was the most extensive question and answer period on astronomy I've ever experienced with *any* group of people. The teacher even stopped me briefly to bring the sixth grade class in as well, since they were also studying astronomy that week.

The questions being hurled at me were anything but ordinary. They were extremely thought-provoking for young children. The subjects began with the Solar System but went all the way to life elsewhere in the Universe. It went on so long, in fact, that I was afraid there wouldn't be time enough to step-off all the planets' orbits when we got outside.

The weather certainly cooperated. It was the first warm day we'd had during a cold winter. All of us (about fifty) started on one corner of the school grounds by placing the bright red kick ball (the Sun) into the hands of two volunteers. From here we began pacing our way out to Mercury's orbit. About a dozen paces as I recall. Nothing spectacular yet, but I still had their attention with the promise that it was about to get interesting. We continued with roughly the same paces to Venus and Earth (again leaving two volunteers to hold their respective planets), but things suddenly began to change as we arrived at Mars. It took much longer to get there than the relatively short jaunts of the inner Solar System. Then it got really interesting as we made the long haul to Jupiter.

By the time we got to Saturn, the eight-inch red "Sun" was very tiny as we looked back. Uranus was as far as we could go. We'd run out of room, and this is a *large* school yard. The Sun was now too small to be seen. Were we to continue out to Neptune and then on to Pluto, we would have been several more blocks down the road. During the entire time, I had the full attention of both the third and the sixth graders. I was *astounded* both by the project (yes, it even surprised me) and the kids themselves.

I doubt any of these kids remember the actual numbers involved today, years later, but I guarantee you they do remember the Solar System is *gigantic*. It's so easy for people to assume that the planets are relatively close together when we see the normal representations on posters or in books. I ended by mentioning the fact that at this same scale, we would have to walk across the

Atlantic Ocean to get to Alpha Centauri, the next closest star to our Sun.

So what does it all mean? I guess it gives hope that *kids are still kids* in this day and age of high tech toys and entertainment. That curiosity and wonder can still be coaxed out



occasionally if you use the right *bait*. I don't imagine those kids went home that afternoon and decided to become astronomers, amateur or professional, when they grew up, but perhaps a small seed was planted. Perhaps now,

if they are over being embarrassed by doing anything "different" from what their friends do, one of them will look up, see Jupiter blazing overhead, and remember a long-ago afternoon when the class walked the Solar System.



CHEW ON THIS

Diane K. Fisher

The Mars robotic rovers, Spirit and Opportunity, are equipped with RATs, or Rock Abrasion Tools. Their purpose is to abrade the surface patina off the Mars rocks so that the alpha x-ray spectrometer can analyze the minerals inside the rocks, rather than just on the surface.

But future robotic missions to Mars will be asked to go even further below the surface. Scrapers and corers will gather rock samples of

substantial size, that, in order to be analyzed by a spectrometer, will need to be crushed into a fine powder.

Crushing rocks on Mars? Now there's a problem that brings to mind a multitude of possible approaches: Whack them with a large hammer? Squeeze them until they explode? How about just chewing them up? It was with this latter metaphor that the planetary instrument engineers struck pay dirt—so to speak.

Thanks to NASA's Planetary Instrument Definition and Development Program, a small group of NASA engineers came up with the Mars Rock Crusher. Only six inches tall, it can chew the hardest rocks into a powder.

The Mars Rock Crusher has two metal plates that work sort of like our jaws. One plate stays still, while the other plate moves. Rocks are dropped into the jaw between the two plates. As one plate moves in and out (like a lower jaw), rocks are crushed between the two plates. The jaw opening is larger toward the top and smaller towards the bottom. So when larger rocks are crushed near the top, the pieces fall down into the narrower part of the jaw, where they are crushed again. This process repeats until the rock particles are small enough to fall through a slit where the two plates are closest.

Engineers have tested the Mars Rock Crusher with Earth rocks similar to those expected to be found on Mars. One kind of rock is hematite. The rusted iron in hematite and other rocks help give Mars its nickname "The Red Planet." Another kind of rock is magnetite, so-called because it is magnetic. Rocks made by volcanoes are called basalts. Some of the volcanoes on Mars may have produced basalts with a lot of a mineral called olivine. We call those olivine basalts, and the Rock Crusher chews them up nicely too.

Visit www.jpl.nasa.gov/technology to read the latest about other NASA technologies for exploring other planets and improving life on this one.

This article was written by Diane K. Fisher and provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.

Caption: Looking down on the jaws of the Mars Rock Crusher, we see a magnetite rock get crushed into smaller and smaller particles.



The Year without a Chiefland: What's a Johnny Reb to Do?

Unk Rod

If you're a regular reader, you may recall mentions here over the last year that *the Chiefland Star Party has come to an end*. There was no organized 2007 Spring Picnic, and there is to be no big November Star Party, either. Why? Apparently the whole thing became too much for some of the CAV (Chiefland Astronomy Village) residents. It's understandable that having upwards of a couple of hundred folks (some with humongous RVs) in your "backyard" twice a year might get to be a bit of a drag.

Bummer. For us Deep South astronomers, the Chiefland Star Party and the Chiefland Spring Picnic had become much-anticipated features of our observing lives over the last decade or so. If there *ain't no Chiefland*, what do you do this fall? Below are a

few alternatives for CSA Star Gazers (and our Yankee friends who enjoy an autumn observing expedition to Possumland).

Deep South Regional Star Gaze

"DSRSG" (November 6 - 11), now in its 25th year, is the longest running star party in the southeastern United States. In recent times, some changes, including a move to a new site, have caused this event to fall off some folks' radars. Take it from me and Miss Dorothy, though; this one is better than ever. Its former location, Percy Quin State Park in southern Mississippi (near McComb), had great facilities, but as McComb grew the skies became progressively worse. The star party's new home, Camp Ruth Lee in northern Louisiana near Clinton, is only a short distance from the old site and features *much* better skies. In fact, year before last (last year was essentially rained-out) the skies at Camp Ruth Lee were actually *better* than those at Chiefland 2005. <http://www.stargazing.net/DSRSG/>

Peach State Star Gaze

This is another long-running star party (in its second decade) that's in flux. It started out at Georgia's Indian Springs State Park near Jackson, moved over the state line to White Water Express at Copperhill, Tennessee for a few years, and is now moving a *third* time, to the Deerlick Astronomy Village (think "Chiefland) on October 7 - 14. This new location, about two hours from Atlanta in the direction of Augusta, doesn't have many amenities, I'm told, but it does have, it's said, very dark skies. <http://www.atlantaastronomy.org/PSSG/>

Mid Atlantic Star Party

Based near Robbins, North Carolina, MASP, to be held October 8 - 14, is one your Old Uncle has never made, but one he intends to visit sooner or later because of its reputation for good skies and friendly folks. <http://www.masp.org/>

Tennessee Star Party

This one has been at a number of sites over the years, usually private camp facilities. *This* year it will be at the “TAG Primitive Baptist



Youth Encampment” near Lynchburg (September 14 – 16). I don’t know pea-turkey about this site, but the year I attended TNSP as a speaker I was impressed by the quality of both the organizers (Barnard-Seyfert AS) and attendees.

<http://www.bsasnashville.com/tnsp/>

Okie Tex

Okie Tex (October 6 – 14) isn’t a “southern” star party, but it is probably the premiere event for DSO fanatics in the fall. It *is* a pretty good drive for Rebel boys and girls (to put it mildly), but is said to be well worth it (this is yet another one your Old Uncle has yet to visit). Near the New Mexico – Oklahoma border in the OK panhandle, you can bet there are dark skies—ain’t much civilization around, after all. Accommodations are *somewhat* rudimentary, but do include bunkhouses and on-site meals. <http://www.okie-tex.com/>

Chiefland

You don’t *have* to *completely* give up Chiefland, you know. If you become a member of the Chiefland Astronomy Club, you can head out to your fave observing field on any New Moon weekend. Yeah, I know that doesn’t *quite* hold the excitement of the big-time

Chiefland dos of yore, but you do get to visit Bill’s bar-b-que, tour the town’s Wal-mart, and eat them little cinnamon rolls down to the Holiday Inn Express (if, like Unca Rod, that’s *your* idea of

camping out). You also get those wonderful and conveniently located Chiefland skies, and will no doubt be able to spend some time with at least a few of your old-time CAV buddies. Go here for details: <http://www.chiefland.org/>

Good Things Come

Uncle Rod

“Good things come to he who waits.”
“A watched pot never boils.”
“Having is never as good as wanting.”

Yeah, American English is rife with aphorisms about the beauties of *delayed gratification*. It’s a Puritan thing, I reckon. But, **dang**, I finally decided my gratification had been delayed a little *too* long—43 years, to be exact.

What the H-A-I-L am I *talkin'* about? My long-unrequited love affair with A.C. Gilbert telescopes.

If you've read my "astrobio" (<http://skywatch.brainiac.com/rodspage/index.htm>), you know all about *Stephanie's Telescope*. If you haven't, well, to make a long story short, What got me started on the astronomy road back in 1965 was a classmate's show-and-tell presentation of her brand-new and wonderful, A.C. Gilbert reflector.

Never heard of A.C. Gilbert? If you're a young sprout, I ain't surprised. That wonderful company has been gone for nigh-on 40 years. It's still alive in the memories of those of us who lived through a 50s - 60s childhood, however. Well, not *all* of us, maybe. You *probably* had to be a boy-type kid in those days to appreciate the products Alfred Gilbert's "toy" company sold. "Toy" in quotes because that really doesn't seem adequate to describe the man's products. They were so much more than that.

Chemistry sets. Electricity sets. Erector sets. Microscope sets. Even telescopes. Gilbert sold a few things that could be described as "toys"—magic tricks and building blocks--but mostly what he sold was *tools*. Tools to fire the imaginations of the kids who lived in a simpler and more naïve (maybe) time. For many of us, a few test tubes and little bottles of semi-household chemicals (BORAX! TANNIC ACID!), were the beginning of a lifetime interest in—and for some, a career in—science or engineering.

Chemistry sets and erector sets were Gilbert's main and most remembered creations, but, with the space age coming in, he didn't ignore astronomy, and, by the end of the 50s, was selling telescopes too, little 60mm f/10 reflectors. Me? I became obsessed with Gilbert's telescope. As I say in my bio, I HAD to have one.

Alas, 'twas not to be. A.C. Gilbert didn't exactly *give* these things away, not as my family reckoned such, and my folks had spent all they could at Christmas—I got a box set of the first three Tom Swift Jr. books (!). In other words, in the spring of 1965 there's wasn't a dog's chance in hell of 11 year old me gettin' *anything* that cost more than a buck unless I mowed a lot of lawns for it.

Don't feel *too* sorry for your ol' Unc. By means of a lot of that lawn-mowin' and with the aid of a sympathetic old man, I *did* get a scope shortly thereafter, but it was *not* a Gilbert. In fact I never owned one or put my hands on one again over 40 years.

Which didn't seem such a bad thing for a long while. I soon progressed from the rancid 3-inch TASCO newt Daddy and I rescued from a pawn shop, moving on to the bigger and bigger and better and better as aperture fever took hold. I soon left childhood and the A.C. Gilbert in the past where I *thought* they belonged. I never did completely forget the little scope, however, or the days and nights spent wistfully dreaming of the wonders it might show me: the mountains and craters of the moon, the rings of Saturn, exploding suns!

44 years later, it's the age of Ebay. If anything's made the Internet appealing to the masses it's Ebay (well, that and porn). Anyhoo, I was browsing that strange and wondrous site, searching under "telescopes" as I sometimes do, and, to my astounded amazement found that I could actually *buy* a Gilbert telescope. *Should I?* Spend what would probably be an



exorbitant sum for an ancient child's toy? *Sure I should.*

Despite the great equipment I've owned and used over the years of my astronomy career, something's always seemed missing. What was missing, I knew deep down, was the little cardboard-tubed wonder-machine. That being the case I screwed my courage to the stickin' place and ponied-up (too much) for an A.C. Gilbert wonderscope.

When the box arrived, I was both pleased and appalled. Pleased the scope was mostly complete. All that appeared to be missin' was the lower tube end ring. The beautiful little booklets were there. The cool solar viewer attachment was in the zippered scope case. Appalled? Unfortunately, the years had not been kind to the primary mirror. Maybe 20% of the coating was left.

On one hand, I was P.O.ed the seller had not admitted to this fact. On the other, I supposed the people who sell these things look upon them as "collectible toys," not something to actually be *used*. Sigh. I didn't bother to try the little thing beyond a look at a distant telephone pole, which yielded a dim and blurry image.

During the following months I did not forget my quest, however. I could have had somebody recoat the little primary, but that seemed somehow untrue to the spirit of the thing. I figured I would eventually turn up another A.C., one with a better mirror, and that I might be able to combine two scopes into one workable one (in addition to the missing end ring, my Gilbert's pressed-cardboard case was jus' about on its last legs).

Before long I did manage to snag a Gilbert sans tripod for less than 20 dineros. I enquired with the seller as to the condition of the mirror, and was informed that it looked "pretty good." When the scope arrived, I immediately removed its primary, which, after a gentle bath, did appear to be in pretty good—if hardly pristine--shape, and put it in the OTA of the original scope (the first scope's tube was in

slightly better condition). I also moved the whole scope to the better case.

An A.C.'s mirror is, believe it or not, is mounted in a simple but "real" cell that is collimated with three bolt/nut/spring adjustments just like a big boy's scope. I didn't mark the primary center, just collimated by eye until everything looked good enough. The long focal length of the scope makes up for a wealth of optical sins.

The next step, was mounting the scope on its tripod, which was as simple as could be. Attach three small black extruded aluminum tripod legs to the tripod head with thumbscrews, attach scope to head, and you're done. The "mounting" if there can be said to be one is a very simple "pillar and claw" variation that consists of a two-piece bracket that's squeezed together with a bolt and wing nut on the scope side and a metal ball on a shaft on the tripod head side for this bracket to swivel on. Snap bracket onto ball, tighten thumbscrew until the OTA's alt-az motion is just right, and you're done.

Once the scope was ready, it was time for first light: Trot scope into the backyard of Chaos Manor. Plunk down in a spot where the Moon will be in view. Wait one last half hour at the tail end of 44 long, long years.

What would I see when darkness came? Well, I could tell the first challenge would be to see *anything*. As is obvious in the photo, this is a radically kid-sized scope. The tripod places the eyepiece about three and a half feet off the ground. With the Moon near zenith, however, the eyepiece would be high enough so I could contort my minimally flexible body enough to take a peek.

What did I expect? Not much. Beyond doubts about the quality of the primary, the "eyepiece"--and I use that term loosely--didn't exactly inspire confidence. It was a non removable two-element Ramsden (if you don't know what that is, don't ask; you don't want to know) in the all plastic analog of a .965 rack and pinion focuser.

Surprise.

When I got the Moon in view with the aid of the non-magnifying and over-log sight-tube that serves as a finder on these wee scopes, the Gilbert was able to present a respectable image. The Moon was a mite hazy, which was probably attributable to a dirty secondary (I'd cleaned the primary. but forgot to take a good look at the secondary). Despite that, Luna was surprisingly sharp, with plenty of detail visible. The great Crater Copernicus showed off some floor features and wall terracing. Certainly it would have thrilled me as a child. *Sure would have.*

The image probably would have been even better if I'd been able to use a little less magnification than the 80x supplied by the Ramsden. While I've heard that some A.C.s had a semi-interchangeable eyepiece system where you switched out the eyelens (but not the field lens) of the eyepiece, believe it or not, there was only a single ocular in the box with the first A.C. The second example I received had an even simpler slide focuser with an eyepiece that was even *less* removable.

What else? The Moon was wonderful, and would have been immensely *more* wonderful in 1965, but I'd have been even more anxious to see Saturn. Of that I have no doubt. Luckily, the ringed wonder was only a few degrees from Luna, so I didn't have to undergo the torture of looking through the devilish little "finder" again.

And there he was. Not a very good image as we gauge things in these latter days, but good enough. The rings were

visible, and, when I held my mouth just right, I could even make out Titan. Frankly, through the eyes of a child the sixth planet would have been wondrously beautiful. No, I couldn't see Cassini's Division, and, no, no disk banding was on display. The mount, such as it was, was awfully shaky, too, and no matter how I adjusted the wing nut to change tension, backlash was a big problem. *But none of that mattered.*

The ten year old boy who I found, to my surprise, had displaced the middle-aged man at the eyepiece was *riveted*. I could actually see RINGS. And that tiny firefly of a speck beside the planet? That wasn't just an anonymous star, that was TITAN. The same mysterious world I'd recently journeyed to in Alan Nourse's *Trouble on Titan*. It was there; I was seeing it. I was seeing in my own backyard with my own eyes; with my own telescope.

Who could ask for anything more, then or now?



My Back Pages

“Crimson flames tied through my ears
Rollin' high and mighty traps
Pounced with fire on flaming roads
Using ideas as my maps
"We'll meet on edges, soon," said I
Proud 'neath heated brow.
Ah, but I was so much older then,
I'm younger than that now.”



Club Notes: News of the Mobile Astronomical Society and Items of Interest for Gulf Coast Area Observers

What's happening down yonder at your friendly, neighborhood astro-club? Some newsbytes from the MAS:

- We're continuing to enjoy the use of the Tanner-Williams dark site. Let's hope we're able to hang onto this one; over the last year we've had more and better local deep sky observing than we've had in a long, long time. Joe K. and I were out there on a recent hot August night, and, despite an incipient Moon, were able to tour countless

wonders down Sagittarius - Scorpius way.

- We're finalizing dates for the Fall and Spring Public (ESC) star gazes. Attend the next meeting for details (hint, hint).
- We missed it this year, but are intent on participating in International Sidewalk Astronomy Night next year. Perhaps in cooperation with the University of South Alabama's student astronomy club.
- If you haven't done so already, remember to register for the Deep South Regional Star Gaze coming up in November. This will be long-time organizer Barry Simon's last year, so let's be sure to give him a great send off with plenty of MAS attendance! If you need the registration forms, email Uncle Rod.
- Prez George Byron has designed and had printed some great-looking MAS business cards to hand out to prospective members or just to new friends you meet at star parties. George has also done a batch of

Skywatch

membership cards to be given out to new enrollees.

- Treasurer Judy reminds everybody that dues are due, as always, every January. You did remember to pay your dues this year, didn't you? If not, please get that 15 dollars or 20 dollars (family membership) to Miss J. We'll be reminding everybody with some printed notices in December and January.

You'd think that with all the Younguns 'round here grown up and gone, the denizens of Chaos Manor South wouldn't look forward to the resumption of SCHOOL quite so much. But we do, cause not all them younguns are gone or show any signs of going anywhere. Not those bearers of the storied mayo jar (kept on Funk and Wagnall's Porch for a fortnight), the execrable Beavis and Butt-head. They do have that jar, though; YOU KNOW...THE ONE WITH ALL THEM--

RUMOURS

I keep hearing about a new Synta German Equatorial Mount. So far, the existence of this new GEM—EQ-7? EQ-8?—is just, well, rumor. One thing that is clear is that the Skyscan EQ-6 (Orion Atlas EQG) has been a huge success, including for astrophotography; especially now that the Nexremote-like EQmod program is available. How could Synta improve the Skyscan? That's easy. Replace the Vixen style dovetail with a Losmandy one and strengthen and lengthen the counterweight bar. A slightly heftier tripod wouldn't hurt, either, though the 2-inch steel legged model ain't bad...

What else might we expect to see shortly? What else might come along to break these danged equipment doldrums? A replacement for Celestron's SkyScout? IF Meade can get sufficient working examples of its mySky into hands of users (the release date has been pushed back three times already and still no mySkys do I see), the SkyScout is gonna look pretty yesterday. Is Celestron (Synta) preparing to do something about that? I dunno, but they have been discounting SkyScouts pretty steeply lately. On the other

hand, Celestron is still selling SkyScouts and the mySky is still vaporware...

In the "just when you thought it was safe to buy telescopes again" department: despite continuing problems with its RCX SCT, I was pretty sure Meade had a fail-safe bread and butter scope in the LX200R. Unfortunately, I've been hearing from new R buyers with QA issues of late including one unfortunate soul now on his 4th R-Type.

How about the RCX? When was the last time you saw a Meade magazine ad for one?

Have you been wanting one of the original Meade DSI cameras, but haven't wanted to pay what Meade has been asking for the DSI-C and DSI-Pro, small as that amount is? With the new DSI IIs firmly on the market, Meade is closing out the originals through dealers at hefty discounts. If you hurry, you can get one of these EXCELLENT and useful little CCD cams for a miniscule price. Last time I checked, OPT had some DSI-Cs for the insane amount of 99 bucks. Anacortes has 'em for the even MORE insane price of 95 smackers!...

What else are amateurs talking about equipment-wise? The 100 degree AFOV TeleVue Ethos...More Burgess-TMB Paragon eyepieces...William Optics new SPL (Super Planetary) eyepieces... Obsession's new super portable dob...The Meade 16-inch Lightbridge...

Is that enough? If not, tell AA what you and your mates are gabbin' about.

--The Anonymous Astronomer

The Wrap Up...

Waaaalll...YEAH: a little skinny and a little heavy on the retread material this time, I reckon. But whatta y'all expect? Unless I can get y'all to CONTRIBUTE that's the way it will be for a while, what with me burnin' the midnight oil on a new book. Be sweet.

--Uncle Rod